BOOK REVIEWS

THE EVERGREEN FORESTS OF MALAWI by J. D. Chapman and F. White, with pp. 190, 9 text figures and 60 black and white photographs. Commonwealth Forestry Institute, University of Oxford, 1970. £2/50.

This is one of those rare publications on segments of African vegetation which merit the attention of serious field botanists.

Both authors know what they are talking about. Where they do not, they generally admit their ignorance and make sensible suggestions for enlightenment. Consequently it is a *usable* and rewarding text for the ecologist and plant geographer. The data contained therein have a validity beyond the influent region of Malawi and her neighbours. Only here and there in Part I is there a degree of pontification.

The junior author admits that his acquaintance with Malawi is slight and presumably this also applies to the territories further south. This lack of field experience would certainly account for some anomalies recorded in the phytogeographical analysis and is further testimony—if any were needed—of the inadequacy of herbarium records in analysing the spatial relationships of taxa. Probably it is best, as White suggests, to concentrate on limited areas and plant formations and leave the major floral regions for future investigation when more data are available.

This is, in essence, what the authors have very successfully done and we can all use most of the information with assurance. The Malawi forests are reasonably well-known and are of considerable phytogeographical and ecological interest, situated as they are more or less midway along the great migration routes of Africa. As a result of the indefatigable field work of Mr. Chapman, a high proportion of key taxa has been documented.

Part I includes the main environmental features of the territory. This is followed by chapters on phytogeographical relationships of components of the forests and the classification of forest types. This latter will probably require drastic modification. Importance values of the species are based upon ecological, plant geographical and taxonomic parameters. In Part 2 the individual forests, more than ninety-five per cent of the total for Malawi, are described in detail with the assistance of soil analyses and profile diagrams. There are admirable and very apt photographs and a companionable bibliography. Presumably detailed species lists will appear in a planned volume on "The Forest Trees and Shrubs of Malawi" which we hope will not be long delayed.

There are not more typographical errors than one has come to associate with the printing industry in Britain. There has obviously been some slack proof-reading and the authors still seem in doubt as to current concepts concerning certain taxa. The binding is a bit flimsy which considering the use it should get in the field, is merely spoiling the ship for a ha'porth of tar.

None of these blemishes or the controversial views and occasional errors of fact detract from the overall value of the work to the trained observer.

I wish we had many more such dealing with other plant formations. Detailed analyses of limited areas will eventually lead to a comprehensive understanding of the origin and history of whole floras and the scientific management of the vegetal cover of Africa. "Evergreen Forests of Malawi" could well serve as a model for those who desire to contribute to these noble objectives.

O. KERFOOT

EXCELSA NO. 1, Journal of the Aloe, Cactus and Succulent Society of Rhodesia.

Interest in the study and cultivation of succulent plants is world wide and undoubtedly greater today than ever before. The discovery of the Americas and the explorations of the Cape introduced the wonderfully rich succulent floras to Europe where they intrigued the botanist and gardener alike. Today, there are flourishing succulent plant societies in many countries of the world, issuing their own periodicals, some of high quality and of standards acceptable to professional botanists since many new species have been described therein, often with good and essential illustrations.

Though technically speaking all the botanical subjects in the various periodicals are classified as succulents—where to draw the line between a succulent plant and a non-succulent plant being frequently debated—it appears to have been widely acceptable to use the term Cactus and Succulent in their titles from the earliest days. This is perhaps due to the fact that these new plant introductions to Europe were, for some time, preponderantly the cacti from the New World.

Perhaps owing to the enormous interest in the genus Aloe today the above publication includes Aloe in the Society's title. Some will consider this an ambiguity.

This comparatively new Society—it was founded in 1969—publishes a quarterly news-letter to its members. It has now produced its first issue of EXCELSA which sets an unusually high standard amongst succulent journals in that it contains no less than 46 colour photographs of superlative quality. This was made possible by the generosity of a number of Rhodesian business houses, for without such public spiritedness reproductions in colour are beyond the finances of any amateur society. Forty of these are from photographs by Mr. D. C. H. Plowes, 31 of which are of the Rhodesian Stapelieae, a group of succulents which has been one of his chief interests for many years. These photographs are accompanied by his account of all the known Rhodesian species in this group.

An account of the vast amount of work done in monographing the genus Aloe by the late Dr. G. W. Reynolds is contributed by Mr. M. J. Kimberley, Mr. E. J. Bullock has compiled a useful check-list of the Aloes of Rhodesia and the reprint of "The Great Tree Aloe of Damara Land" by Thomas Baines, first published in 1866, is of special interest. A "Provision List of Rhodesian Succulents" compiled by Mr. R. B. Drummond will be of considerable practical use.

Professor D. T. Cole contributes notes on "The Growing of Lithops from Seed" and 7 splendid photographs to illustrate them. Although no species of Lithops is known to occur wild in Rhodesia this South African genus is enormously popular and, happily, can be grown fairly readily from seeds.

From the point of view of plant conservation Mr. Kimberley's account of the existing Legislation in Rhodesia is of special interest for there are many people who feel that succulent societies encourage the members to collect wild specimens, thus defeating the objects of the Conservationists. The reviewer has more than once heard references to "succulent cemeteries" —collections falling into neglect and disuse upon the demise of the owners, that plant collecting is a kind of "one-way traffic" and that plants "are never taken back to the veld". The most serious aspect in this regard is the exportation of our rare species by commercial institutions.

It is sincerely hoped that future issues of EXCELSA maintain the same high standard established by its first volume. Further information may be obtained from The Hon. Secretary, P.O. Box 8514, Salisbury, Rhodesia.

H. Hall

Proteaceae by C. Venkata Rao, with pp. 208, 75 figures (each with several illustrations) and 9 plates. Botanical Monograph No. 6. New Delhi: Council of Scientific and Industrial Research. 1971. Sh. 68/-.

This publication of the late professor Venkata Rao satisfies a very urgent need for a comprehensive treatise on the Proteaceae, a family which is geographically and morphologically of very great interest. The last comprehensive survey of the family was that of A. Engler in 1889.

The seven chapters of the book are devoted to the geographical distribution, general morphology (organology), anatomy, embryology and seed anatomy (two chapters), cytotaxonomy and classification, and origin, spread, evolution and phylogeny of the family.

The facts are clearly stated and well presented and the conclusions are well substantiated. The book makes very good reading and can readily be prescribed as a textbook for pregraduate or graduate students.

The author studied representatives of the family from over its whole area—Australia, Africa, America and Asia—and gives a very good picture of the great variation of characters in the family. At least in respect of the embryology, seed anatomy and "style-end" the variation is even greater than expounded by him. The pollen-presenter is not mentioned.

A number of small errors and misrepresentations occur. Several of these can be easily recognised as careless mistakes and are as such not detrimental to the scientific value of the book.

The publication is an important contribution to botany in general, but it will be especially appreciated in Australia and Southern Africa where the family is concentrated and where it is a prominent component of the flora and vegetation.

P. G. Jordaan

KARL BAUR: "DER BOTANISCHE REISEVEREIN ESSLINGEN" in: Jahrbuch fuer Geschichte der oberdeutschen Reichsstaedte. pp. 228-266. Esslinger Studien Bd 16.1970.

The author deals with a brief introduction on the history of the natural sciences in the "Freie Reichsstaedte", particularly on people connected with Esslingen. Some favourable comments on them by Bauhin and Rauwolf are listed. Then follows the history of the founding of the "Botanischer Reiseverein" (Botanical Travel Association). The original press release of the proposed formation of the Association is reprinted. Many accounts of the activities of the Association follow. The very involved participation of the two initiators, Steudt and Hochstetter is dealt with in particular. A great number of footnotes relate to publications in "Flora" and other periodicals of the time, providing a treasure trove for the historically inclined botanist. At its peak the Association's membership included more than 100 individuals and institutions, and among them were such famous botanists as De Candolle and Hooker. These widespread connections ensured that plants collected elsewhere in the world would be described and identified by the best specialists in their fields. Many plants brought to Europe through the activity of the Asscociation are still housed in various famous herbaria. It is quite amusing to read about "dividents" of plants from the Cape which could be obtained by the "shareholders".

The third chapter deals with the various travellers and their fates. Of special interest is, of course, the article on Ecklon and Zeyher and their travels together or in collaboration with Ludwig Beil. Here again a number of footnotes relate to various publications on their collections. One of these publications—the relatively unknown first part of Ecklon's "Topographisches Verzeichnis der Pflanzensammlungen"—was never followed by a second part. Other travellers mentioned are, amongst others, Bertero, Endress, Fleischer, Hohenacker, Huebner, Kotschy, Schimper and Welwitsch. A number of herbaria, where plants of the various collecters are housed, are also named.

Among these short biographies, the story of Wilhelm Schimper's adventurous life in Abyssinia makes particularly interesting reading.

The last chapter deals with a number of other 19th century scientists from Esslingen.

By reading Karl Baur's article one learns a good deal about the closely knit relationships between a formidable number of 19th century scientists, and thus one can understand and appreciate their approach to the problems of the sciences in the light of their time. The actual value of this article lies in the great number of biographical notes and references to many a paper published in periodicals which are no longer in existence. By going into this secondary literature, one might perhaps come across some hitherto overlooked information.

Attention should be drawn to two more articles on the activities of E. F. Hochstetter by Anezka Hrabetova-Uhrova and Maria Habacher which also appear in the book.

W. WISURA

STREPTOCARPUS: AN AFRICAN PLANT STUDY by O. M. Hilliard and B. L. Burtt with pp. xv + 410, Pietermaritzburg; University of Natal Press, 1971. R13.

Glancing back to 1904 when C. B. Clarke published an account of *Streptocarpus* in the *Flora Capensis*, we find that 22 species were recognized for the South African region. Two years later, the 23 *Streptocarpus* species, then known to occur in Tropical Africa, were dealt with in the *Flora of Tropical Africa*, again by C. B. Clarke but assisted by J. G. Baker. Clarke and Baker considered the genus to consist of about 50 species at that stage.

Just how greatly our knowledge has increased since then can be seen from the fact that 132 species (including 4 Asiatic species), are enumerated in *Streptocarpus: An African Plant Study*. Needless to say, Dr. O. M. Hilliard and Mr. B. L. Burtt have been chiefly responsible for this considerable information expansion. At the outset, one must point out that this fine publication is no stodgy taxonomic revision. On the contrary, the great merit of this book is that it contains something for everyone; one third of its pages being devoted to matters of general botanical interest and the remainder to taxonomic aspects. There are chapters dealing with morphology, the flowers, fruits and seeds, growth patterns, phytogeography, evolutionary speculations, the use of *Streptocarpus* in genetics and physiology and, perhaps most fascinating of all, the bizarre vegetative morphology of certain species. Horticulturists will also find much to interest them for hybridization is fully discussed, as is the horticultural history of the genus.

The taxonomic treatment follows the conventional pattern with full synonymy, citation of the types, distribution data, flowering times and many other relevant comments. No herbarium specimens (other than types) are cited which is a great pity, but on reflection one realises that even 5 citations per species would have increased the bulk of the book beyond reasonable limits. The authors have however, been very generous with their keys. Not only is there an artificial key to the whole genus, but there are also 7 separate geographical keys. This is a most praiseworthy idea and there can be no doubt that these regional keys will be a boon to all who have to identify a *Streptocarpus*. Difficulties encountered in delimiting taxa have not for one moment been glossed over. Here, very courageously, the authors have frequently adopted the aggregate concept in dealing with complex groups pointing out possible deficiencies that might be investigated in the future.

Throughout the text, beautifully clear line drawings are provided showing the corolla (natural size) in lateral and frontal view, each drawing conveying the corolla morphology more eloquently than several lines of prose could ever do. 56 individual colour photographs show very adequately the considerable range of colour in the genus and also give good impressions of the habitats although a few of these plates do lack clarity. There are also distribution maps showing the range of each species. To conclude the text, there is a list of chromosome numbers and voucher specimens as well as a short but useful glossary of botanical terms as applied to *Streptocarpus* in particular.

This book represents the culmination of many years of hard work by Dr. Hilliard and Mr. Burtt; a co-operative effort that has been achieved despite the fact that the authors places of work are 6 000 miles apart! As a model of an African plant study, this beautifully produced publication has set a high standard that many botanists in Southern Africa will wish to emulate.

J. P. ROURKE